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AIDS care threatened by crisis in human resources for health in sub-Saharan Africa

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SUMMARY • *Local, internationally-shared research is urgently needed to investigate the requirements for health staff in different delivery models for antiretroviral therapy, and to estimate how compatible these are with local availability of those staff. Innovative approaches to ART delivery, in public and private facilities, and in communities and civil society organisations, should also be studied, to investigate and compare their effectiveness*

The severity of the AIDS crisis in sub-Saharan Africa has been well documented[1]. Especially Southern Africa is hard hit, with adult sero-prevalence rates over 30% in some countries. Over the past few years, civil society and UN agencies alike have been advocating the need to tackle AIDS more vigorously. Large-scale efforts are now underway to both decrease transmission by intensified prevention, and to decrease early AIDS-related mortality among those infected by using anti-retroviral therapy (ART). WHO's '3 by 5' initiative advocates for large-scale ART roll-out in developing countries, aiming at putting three million people on ART by the end of 2005. Such efforts need steeply increased funding, which is being made available through global health initiatives, such as the Global Fund[2] and PEPFAR[3]. The early results of all these efforts are now becoming apparent, and were recently reported in the interim report of '3 by 5' released in June 2005[4].

Progress is a bit slower than hoped for, but beyond that there is good news and less good news. First the good news: for those able to access treatment: ART works, and this probably for quite a number of years. The less good news: ART is very labour intensive, especially in highly qualified personnel, such as doctors. And where these doctors are not readily available, this creates a serious bottleneck, and this is now one of the major bottlenecks for scaling-up access to ART.

This news should be seen against the background of a deep crisis in human resources for health (HRH) in much of sub-Saharan Africa. This crisis has been well documented recently, especially through the Joint Learning Initiative[5].

But, how severe is the HRH crisis in sub-Saharan Africa, and what can research contribute to solving it? WHO calculates the enormous differences in doctors per 100 000 population among countries, from 606 in Italy through 69 in South Africa to just one in Malawi[6]. And such country averages still hide important problems of maldistribution within countries, low productivity and low staff morale.

Moreover, in countries with high HIV/AIDS burden, this HRH crisis is being worsened by the very impact of AIDS on the health system and on the workforce[7]. First, there is the most direct impact of the increasing morbidity and mortality among health workers themselves. The absenteeism of doctors and nurses due to own illness or illness and death in the family have increased significantly. Second, the occupational risk of HIV infection is perceived by the health workers as being high and is undermining staff morale. Third, the greatly increasing need and demand for health care lead to health facilities being overburdened. Burn-out seems to be increasing among the dwindling numbers of health workers who have to cope with this increasing workload.

And exactly how labour intensive is ART delivery? We assessed this from different sources: a WHO review of early experiences with ART delivery; estimates made by the Institute of Medicine, USA, for PEPFAR; estimates made for South Africa's Operational Plan for AIDS care; MSF experience in Malawi; and our own observations in Mozambique and Cambodia.

All these sources show that the ART delivery models documented are very labour intensive and are using high numbers of skilled staff, especially doctors. The study in Cambodia, for instance, shows that on average a patient needs 60 minutes of doctor-time before ART initiation; 90 minutes for ART initiation; and 120 minutes for follow-up in the first year. In all ART delivery models we know of, the patient/doctor ratio is 700 patients per 1 doctor, or less.

Scaling up ART to the millions of people in need using such labour-intensive ART delivery models may be possible in a minority of situations, such as in urban South Africa, but even there it will require important efforts to correct maldistribution of HRH within the country.

In the majority of contexts, however, such as Mozambique, Malawi, Zambia, Rwanda, Tanzania, to name a few, the

skilled HRH for scaling up ART using the present ART delivery models are just not available in-country. If such a doctor-centred model were to be used for the scale-up of ART in a country like Malawi, more than the total number of doctors in the country would be required. For such countries, there are two possible tracks for tackling this situation: a rapid increase of the number of HRH available, and/or an adaptation of ART delivery models to the existing HRH constraints, using less skilled HRH, especially fewer doctors. These tracks are, of course, not mutually exclusive.

Rapidly increase the number of HRH available?

It seems more likely that the stock of HRH will be further depleted in the short term than the opposite. More creativity and bold decisions will be needed, but given the scale of the problem and the lag time of most measures in the HRH field, no dramatic changes can be expected for several years. Only a large-scale HRH 'import' from countries with a HRH surplus (eg Brazil, Cuba or Italy) to Southern Africa could change the situation rapidly.

Adapt ART delivery models?

The adaptation of ART delivery models, with the aim to make them less HRH intensive, is clearly needed as well. Context-specific ART delivery models, requiring considerably less doctor-time, need to be developed. WHO's Integrated Management of Adult and Adolescent Illness (IMAI)[8] model is designed to make ART delivery feasible in the context of HRH shortages by task-shifting. The thus simplified ART protocols delegate a number of tasks from medical doctors to nurses and from nurses to community health workers. Individual projects have drawn consequences from HRH shortages and made changes in their project design. MSF in Eastern Cape, South Africa, is implementing a nurse-based ART delivery model.

These are important steps. Such task shifting is needed, but in many countries this remains problematic. Frequently, professional associations are opposed to a change in division of roles between different health professions, and it may also need changes in legal frameworks. Training institutions, too, will have to change their curricula and approaches.

But big doubts remain whether the efforts to increase availability of HRH, and the adaptation of current ART delivery models will meet. Only then can the ambitious ART coverage goals be reached. If the current doctor-intensive ART delivery models keep being applied without major adaptations to the context, the coverage of ART will stall far below the '3 by 5' targets in countries with limited stocks of highly skilled HRH, especially doctors. Moreover, '3 by 5' is undoubtedly an ambitious initiative, but with its very-short term perspective (end of 2005), it largely ignores the build-up of huge caseloads of people on ART in the medium and longer term. For the countries hardest hit, with the weakest HRH base, wanting to scale up ART and to maintain millions of people on ART, a more radical rethink of ART delivery may be needed, such as extensive use of lay providers or expert patients; and this not only in support functions but also for tasks up to now reserved for doctors and nurses.

So what research is needed to facilitate innovation and diffusion of innovation, and to guide policy-making in the field of HRH?

Countries should document how different ART delivery models make use of HRH, and estimate how compatible they are with local availability of HRH. They should also study which innovative approaches to ART delivery are being tried out, in public and private facilities, and in communities and civil society organisations, and investigate how effective these are. It is important that enlightened policy makers facilitate such local innovations in HRH use, such as task shifting, use of peer counsellors or expert patients, even if such innovations challenge established practices, rules and regulations.

There is a need both for research on local solutions and for international sharing of the results. Indeed HRH issues are firmly embedded in the local context, and any solutions will have to take the context into account. Also, policy makers are often more responsive to locally produced evidence. Studies should also be made publicly available, on the Internet, and should be digested in policy briefs for busy practitioners and policy makers alike. ■

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1 UNAIDS website: www.unaids.org/wad2004/report.html

2 Global Fund website: www.theglobalfund.org/en/

3 US Office of the Global AIDS Coordinator (2005). Engendering Bold Leadership. The U.S. President's Emergency Plan for AIDS Relief (PEPFAR). U.S. Five-Year Global HIV/AIDS Strategy. Departments of State, Defense, Commerce, Labor, Health and Human Services http://www.state.gov/documents/organization/43885.pdf

4 *'3 by 5' report* (June 2005). www.who.int/3by5/progressreportJune2005/en

5 *Joint Learning Initiative Strategy Report - Human Resources for Health: Overcoming the Crisis* (November 2004). Global Equity Initiative, Harvard University. http://www.globalhealthtrust.org/Report.html

6 www.who.int/GlobalAtlas/DataQuery (updated 26 October 2004)

7 Kober K, Van Damme W. (2004) Scaling up access to antiretroviral treatment in southern Africa: who will do the job? Lancet, 364: 103-7.

8 *Integrated Management of Adolescent and Adult Illness* (IMAI) (2004). (Accessed 20 May 2005). www.who.int/3by5/publications/documents/imai/en/